EXHIBIT 15

ELSEVIER

Journal of Corporate Finance 8 (2002) 373–391

Journal of CORPORATE FINANCE

www.elsevier.com/locate/econbase

Corporate governance in South Korea: the *chaebol* experience

Terry L. Campbell II *, Phyllis Y. Keys

Department of Finance, University of Delaware, Newark, DE 19716, USA

Accepted 22 June 2001

Abstract

Utilizing a large sample of South Korean firms, this paper explores the impact of corporate governance in an emerging market country dominated by a few large business groups. Firms affiliated with the top five groups (*chaebol*) exhibit significantly lower performance and significantly higher sales growth relative to other firms. Furthermore, top executive turnover is unrelated to performance for top chaebol firms, indicating a breakdown of internal corporate governance for the largest business groups. Internal corporate governance appears much more effective for firms unrelated to the top chaebol as managers at poorly performing firms are significantly more likely to lose their job. These results imply that the lack of properly functioning internal corporate governance among the top chaebol, which dominate the Korean economy, may have increased the severity of the recent financial crisis.

JEL classification: G34; G38

Keywords: Top executive turnover; South Korean corporate governance; Government policy

1. Introduction

The South Korean economy was so devastated by the financial crisis of 1997 that the country was forced to accept a US$58 billion bailout from the International Monetary Fund (IMF) conditional on improving the country's corporate finances as well as both reducing debt and reliance on loans. Recent research has argued that this financial crisis was caused by macroeconomic and banking problems (Johnson et al., 2000). However, these standard arguments fail to explain the variation between East Asian countries as to the severity of the financial crisis. Moreover, these explanations fail to explain why other

* Corresponding author. Tel.: +1-302-831-6411; fax: +1-302-831-3061.

E-mail address: campbelt@be.udel.edu (T.L. Campbell II).

0929-1199/02/$ - see front matter
PII: S0929-1199(01)00049-9

emerging markets in Latin America and Eastern Europe did not suffer to the same degree as East Asian countries.

The functioning of the corporate governance systems of developed economies has been examined in great detail, focusing largely on the United States and Japan.[1] However, very little empirical work has been conducted on corporate governance systems in less-developed markets, which are often dominated by large business groups (Khanna, 2000). An exception to the dearth of work in this area is the growing literature on corporate governance law and the functioning of capital markets around the world.[2] However, this work does not directly examine the functioning of corporate governance in disciplining poorly performing managers or the role of business groups.

Recently, mounting anecdotal evidence points to a breakdown in the unique industrial market structure of South Korea perhaps worsening the financial crisis. Large family run and controlled *chaebol* groups (conglomerates) dominate the South Korean economy. The largest chaebol are widely thought to have led the country into the financial crisis which left the country close to bankruptcy by taking on dangerous levels of debt and diversifying into unrelated, unprofitable businesses. In fact, creditors are currently dismantling the Daewoo chaebol as a result of extremely poor performance. Taken together, these arguments call for a closer look at the corporate governance of the largest business groups in South Korea.

The analysis of the chaebol structure in South Korea is especially important when compared to the keiretsu structure in Japan. The largest five chaebol (Samsung, LG, Daewoo, Hyundai and SK) accounted for 20% of all outstanding debt as well as three-quarters of new borrowing in 1998.[3] The sales of the top five chaebol also contribute almost one-half of Korea's GDP as well as one-half of all exports. In 1987, keiretsu firms accounted for about 17% of sales, 13% of profits and 6% of the total employment in Japan (Kang and Shivdasani, 1995). Therefore, the chaebol system is much more dominant in Korea than the keiretsu system in Japan.

Our paper uses a large sample of South Korean firms from 1992 to 1997 to examine the efficiency and effectiveness of corporate governance in South Korea preceding the financial crisis. We focus on the largest chaebol which are widely thought to have led the country in the crisis. We begin with a comparison of firms affiliated with the top five chaebol and all other firms. Then, we analyze the role of alternative corporate governance mechanisms in determining top executive turnover in South Korea, such as the importance of firm performance, top chaebol affiliation, main bank ties and ownership structure.

Firms unaffiliated with the largest chaebol achieve significantly higher performance and significantly lower sales growth indicating a reversal from studies of previous time periods. Consistent with indirect evidence by Claessens et al. (1999) and Shin and Park (1999), groups affiliated with the largest chaebol seem to have moved to goals unrelated to profit maximization in the 1990s.

Consistent with similar studies (Kaplan, 1994; Kang and Shivdasani, 1995; Gibson, 2000), we find a negative relation between firm performance and turnover when analyzing

[1] See Shleifer and Vishny (1997) for a review of this literature.

[2] See La Porta et al. (1997, 1998, 1999) and Johnson et al. (2000).

[3] *Economist*, March 27, 1999 and Business Week, December 14, 1998.

our full sample of South Korean firms. These results are significant for three of the five performance variables used in this study and are consistent with properly functioning internal corporate governance in South Korean. The other two measures of performance are also in the hypothesized direction, but not statistically significant.

When examining the impact of group affiliation on corporate governance, we find several interesting results. First, we find no difference in the rate of unconditional top executive turnover between firms affiliated with the top five chaebol and all other firms. Kang and Shivdasani (1995) find nonroutine turnover is less likely for those firms affiliated with a keiretsu. Interestingly, top executives of the top five chaebol (conglomerates) seem to be completely insulated from disciplinary turnover as we find no relation between firm performance and top executive turnover for all measures of performance. In fact, we find a perverse relation between turnover and performance for a number of performance measures. This runs counter to Gibson's (2000) findings in which he groups all firms together without accounting for group affiliation. It also suggests extremely poor internal corporate governance for firms affiliated with the largest business groups in South Korea.

However, we find a significant negative relation between firm performance (measured by both stock market and accounting returns) and top executive turnover for firms not affiliated with the top five chaebol. These results suggest extremely well-functioning corporate governance. The stark differences between the two samples supports the anecdotal evidence that top chaebol suffer from poor corporate governance, which may have increased the severity of the recent financial crisis.

Finally, this paper analyzes other measures of Korean governance structure. Unlike Japanese firms (Kaplan and Minton, 1994; Kang and Shivdasani, 1995), main bank ties do not provide a monitoring function as the relation between turnover and firm performance is unrelated to the existence of a bank as a top shareholder. This result is consistent with the assertion by Johnson et al. (2000), who point out South Korean banks may not have been an effective monitor during the precrisis period. We also find no relation between unconditional turnover and ownership concentration consistent with passive ownership by large shareholders (Claessens et al., 1999; La Porta et al., 1999; Gibson, 2000). We find a consistently negative relation between turnover and foreign ownership consistent with passive ownership by foreigners (Anderson and Campbell, 2001). Finally, for unaffiliated firms, we find a significantly negative relation between turnover and the existence of the top executive as one of the top three shareholders signaling a nontrivial level of managerial entrenchment.

The rest of the paper is organized as follows. Section 2 examines the economic environment of South Korea over our sample period and summarizes the relevant literature. Section 3 describes the data, performance and corporate governance variables, and presents summary statistics. Section 4 presents the results of our analysis on turnover likelihood. Concluding remarks are presented in Section 5.

2. The South Korean economy

As an emerging market dominated by a few business groups, key differences exist between South Korean firms and those in the United States and Japan. This section

provides an overview of the important factors we analyze later in the paper as well as a review of the relevant literature.

2.1. Emerging market corporate governance

As mentioned earlier, the empirical work regarding corporate governance systems in less-developed markets is sparse at best. La Porta et al. (1997, 1998, 1999) and Johnson et al. (2000) focus on corporate governance law and the functioning of capital markets around the world. In fact, Gibson (2000) asserts these papers, focusing on concentrated ownership, test the effects of specific corporate governance *mechanisms*. He argues different corporate governance mechanisms may serve as substitutes to one another further clouding the effect on the corporate governance *system*. Gibson (2000) is the first to examine corporate governance in emerging market countries by observing the relation between firm performance and top executive turnover. The author examines a cross-section of emerging market countries and concludes corporate governance is not *ineffective* as top executives at poorly performing firms are significantly more likely to lose their jobs. Gibson (2000), however, by examining several countries simultaneously, could be missing important country specific variables impacting the efficiency of corporate governance in emerging market economies. For example, Gibson includes South Korean firms in his sample without taking into account the role of business groups.

2.2. Business groups

Khanna (2000) reviews the extant literature on the role of business groups in emerging markets and tentatively concludes group affiliation positively affects performance. However, the author notes a conspicuous lack of empirical research in this area. Khanna and Palepu (2000a,b) examine business groups in India and Chile and find the most diversified business groups outperform all other firms. These results run contrary to studies of U.S. firms (Comment and Jarrell, 1994; Lang and Stulz, 1994; Berger and Ofek, 1995) as well as examinations of the Japanese keiretsu (Weinstein and Yafeh, 1995, 1998) in which diversification destroys value.

Only a handful of published papers examining the role of the chaebol in South Korea exist. Chang and Choi (1988) study 182 publicly traded companies from 1975 to 1984. The authors find that chaebol groups, which are both vertically integrated and conglomerate in nature (i.e., the very largest chaebol), outperform other firms. Choi and Cowing (1999) analyze 252 Korean manufacturing firms from 1985 to 1993. Using a more recent data set, they find no significant differences in profit rates between chaebol and nonchaebol firms in the early 1990s. Shin and Park (1999) find that in spite of the existence of an internal capital market for chaebol firms, these firms invest far more than nonchaebol firms despite poor growth opportunities. Claessens et al. (1999), in examining diversification of East Asian companies, indirectly suggest that diversified Korean companies have allocated capital to less profitable ventures. As diversified chaebol groups dominate Korea, it would seem these groups may have recently chosen an objective other than value-maximization.

2.3. Chaebol

The large conglomerate groups in Korea, known as chaebol groups, developed following the Second World War. The Korean government offered these groups low-cost loans and other incentives to create corporations that could compete globally. In the 1970s, the Korean government concentrated on certain industries (heavy machinery and chemicals) in order to create a competitive advantage. However, this government help was restricted to the top chaebol groups. The chaebol system was extremely successful as the economy grew 20-fold from 1965 to 1985 in terms of GNP (Chang and Chang, 1994). In fact, even in the early 1990s, GNP growth was close to 10%. The founding family members of most chaebol groups have managed to maintain control of these large conglomerates.

This growth continued into the 1990s in spite of the 1980 passage of a competition law and the formation of the Korean Fair Trade Commission (KFTC) to enforce the law. The competition law was created to check the incredible growth of the largest chaebol groups. However, the law had loopholes that kept competition subordinate to industrial policy. As a result, the KFTC rarely took action against the chaebol groups, except to appease politicians (Yoo and Moon, 1999).

However, the business press and Korean citizens have begun to see the largest chaebol groups (most still family run and controlled) as wielding too much power given the incredible wealth inequality that has developed between the chaebol families and the rest of the country. In fact, the largest 10 families in South Korea control around one-third of the corporate sector (Claessens et al., 2000).

Jang Hasung, a well-known South Korean shareholder activist, argues that "corporate governance in Korea is a total mess" and that the existing corporate laws created major obstacles to shareholder activism regarding the largest chaebol.[4] Kim Yu-kyung, Director of International Relations for the Korea Stock Exchange, is also critical of the chaebol strategy. Kim argues the economic environment has changed drastically in the last few years and chaebol groups are not equipped to deal with this new paradigm. This sentiment is echoed by Kim Joon-gi, Professor of the Graduate School of International Studies of Yonsei University, who argues that Korea needs a new corporate governance system consisting of the following attributes: effective checks and balances, enhanced transparency, management accountability and a respected regulatory body.[5] This paper provides evidence regarding the recent anecdotal assertions about the top chaebol.

2.4. Bank monitoring

The Asian financial crisis in 1997 underscored the importance of financial institutions. Johnson et al. (2000) present several commonly accepted reasons for the Asian financial crisis including banking problems. One argument hypothesizes Asian banks made corporate loans with the implicit understanding the government would bail out the banks in the event of default. When these banks recognized the government could not honor

[4] *Economist*, March 27, 1999.

[5] Korea Herald, October 20, 1999 and Korea Herald, July 21, 1999.

these guarantees, they began taking drastic steps to limit their credit exposure, thus instigating the crisis. Aoki (1990) argues the main bank system in Japan serves an important corporate governance function by disciplining managers for poor performance and recent empirical work supports this assertion (Kaplan and Minton, 1994; Kang and Shivdasani, 1995).

2.5. Ownership structure

Morck et al. (1989) note most emerging market firms are family-controlled, possibly leading to high levels of managerial entrenchment. Shleifer and Vishny (1997) observe a growing literature on the lack of rights for small shareholders in emerging market economies (La Porta et al., 1997). Others posit large shareholders may be passive mutual fund investors and not active monitors (Kang and Shivdasani, 1995; Anderson and Campbell, 2001). As South Korea is a developing economy dominated by a few family-controlled business groups, it makes sense to examine ownership structure.

Foreign ownership of South Korean firms was not allowed until January 1992.[6] Even then, the level of foreign ownership was set quite low (3% for an individual foreigner, 10% for total foreign ownership) and only changed marginally in the following three years (total foreign ownership was raised to 12% in 1994). By 1995, most publicly traded firms had reached the 12% limit. However, beginning in the mid 1990s, South Korea began to drastically liberalize the stance on foreign investment. For instance, the limit on foreign ownership was increased from 12% to 26% by the end of 1997.

3. Data

3.1. Sample

Our initial sample consists of all South Korean firms listed in the Asian Company Handbooks (ACHs) published annually from 1993 to 1999 (the 1995/1996 edition was published as one Handbook). Our sample is taken from this source as opposed to the Worldscope database used by Gibson (2000) for a number of important reasons. First, the ACH gives a brief history of each firm, which allows us to identify those firms affiliated with one of the top five chaebol. Second, the ACHs allow us to obtain a much larger sample to analyze. For example, Gibson's sample of South Korean firms consists of 146 firms and 284 firm years over the 1993–1997 period, while our sample is considerably larger. Third, the ACH lists the top executive of each firm, while Gibson (2000) notes that the Worldscope database lists "several officers for each firm". We assume that the ACH lists only the top officers of each firm; therefore, we face much less ambiguity in defining a *top* executive turnover event. Fourth, Worldscope only lists shareholders that hold

[6] The information on foreign ownership rules and changes is taken from Geert Bekaert and Campbell R. Harvey's Country Risk Analysis web page (http://www.duke.edu/~charvey/Country_risk/couindex.htm).

greater than 5% of the firms outstanding shares, while the ACHs list shareholders with a much lower stake. This allows us to identify important governance variables, such as top executive stock ownership, ownership by a financial institution and other variables, which tend to be less than 5% for South Korean firms. From the ACHs, we then collect yearly information on top executives, firm performance, chaebol membership, ownership structure and other relevant data for all firms.

Panel A of Table 1 contains the sample description. The initial sample consists of 421 firms and 1463 firm years. First, banks are eliminated from the sample (19 firms and 59 firm years), as governance at financial institutions may be completely different than at industrial firms. As top executive turnover is an important aspect of this paper, we eliminate those firms without consecutive data (46 firms and 89 firm years). The final sample consists of 356 firms and 1315 firm years. Panel B of Table 1 breaks down the data by year and turnover. On average, the fraction of firms experiencing top executive turnover is 25.3%, but varies significantly by year. This fraction ranges from a high of 34.1% in 1995 to a low of 17.8% in 1997, but shows no clear trend over time. These numbers are roughly double the percentage of turnover of Japanese and U.S. industrial firms and banks.[7]

3.2. Measure of firm performance

We use five measures of firm performance to enable us to compare our results with other research. The measures are: (1) three-year stock return net the sample median three-year stock return, (2) return on assets (earnings divided by total assets) net the sample median return on assets, (3) return on equity (earnings divided by equity) net the sample median return on equity, (4) the change in earnings divided by lagged assets, and (5) a negative income dummy variable. Gibson (2000) uses similar measures to compare his results on a cross-section of emerging market countries with Kaplan's (1994) study of large U.S. firms. We also use our results to compare with U.S. banks (Barro and Barro, 1990), Japanese industrial firms (Kaplan, 1994) and Japanese banks (Anderson and Campbell, 2001). Gibson (2000) finds that stock market returns are the only firm performance measurement not significantly related to top executive turnover for any specification.

3.3. Governance variables

Any analysis linking firm performance and turnover likelihood must include several governance variables. These variables are especially interesting to examine in an emerging market dominated by a few business groups.

3.3.1. Chaebol variable

We define a firm as a top five chaebol firm if the Asian Company Handbook lists the company as being affiliated with Samsung, LG, Daewoo, Hyundai or SK. As mentioned earlier, the top five chaebol in Korea account for a disproportionate share of the sales, debt, international trade and have been given the lion's share of government help. Kang and

[7] See Anderson and Campbell (2001) for a comparison of turnover studies.

Table 1
Sample description

	Number of firms	Number of firm years	Number of firms with top executive turnover	Fraction of firms with turnover (%)
(A) Sample collection				
All firms	421	1463		
Banks	19	59		
Without consecutive data	46	89		
Final sample	356	1315		
(B) Turnover characteristics				
By year				
1992		334		
1993	334	334	95	28.4
1994	300	300	54	18.0
1995	138	164	47	34.1
1996	104	110	31	29.8
1997	73	73	13	17.8
Total	949	1315	280	25.3

The sample consists of all firms listed in the Asian Company Handbooks published annually (except for the combined 1995/96 book) from 1993 to 1999. Top executive turnover is a change in the name of the top executive from the previous year.

Shivdasani (1995) find that unconditional top executive turnover is less likely for firms affiliated with a keiretsu. We use this variable to test the affect of group membership in the very largest chaebol on corporate governance in South Korea.

3.3.2. Bank monitoring variable

We define a dummy variable equal to one if a bank is among the top three shareholders. The role of banks in South Korea has been underscored by the recent financial crisis; therefore, this variable is included to see if banks provide a monitoring role similar to banks in Japan (Kaplan and Minton, 1994; Kang and Shivdasani, 1995).

Notes to Table 2:
The data consists of all nonfinancial firms listed in the Asian Company Handbooks from 1993 to 1999 having consecutive data. All variables are measured in the local currency.

[a] The medians were tested using Wilcoxon median test. The *p*-values are for the *z*-statistic. Means tested using *t*-test; associated *p*-values are shown.

[b] This variable is Winsorized at the 5% and 95% tails. Market-adjusted stock return is the 3-year stock return net the sample median for that time period. Adjusted ROA and ROE are net the sample median for that particular year. Sales growth is the percentage change in sales from last year's fiscal sales to this year's fiscal sales.

[c] Won bil.

[d] The last four rows were tested using Cochran–Mantel–Haenszel χ^2 test of differences. Tests using Fisher's Exact two-tailed test gives similar results (0.375, 0.000, 0.011, 0.000).

Table 2
Summary statistics

	All firms ($n=859$)	Top five chaebol firms ($n=151$)	Non-top five firms ($n=708$)	p-Values for test for differences in means (medians)[a]
	Mean (median)	Mean (median)	Mean (median)	Mean (median)
(A) Performance measures				
Market-adjusted stock returns[b]	0.2651 (0.1286)	0.3216 (0.1689)	0.0169 (−0.0986)	0.0000 (0.0000)
Median-adjusted ROA[b] (earnings/assets)	0.0073 (0.0005)	−0.0005 (−0.0039)	0.0089 (0.0024)	0.0005 (0.0002)
Change in earnings/assets[b]	−0.0045 (−0.0015)	−0.0041 (−0.0006)	−0.0045 (−0.0019)	0.8928 (0.3024)
Median-adjusted ROE[b] (earnings/equity)	−0.0007 (−0.0037)	−0.0066 (−0.0093)	0.0005 (−0.0019)	0.2257 (0.0987)
Sales growth[b]	0.133 (0.118)	0.193 (0.183)	0.120 (0.103)	0.000 (0.000)
(B) Firm characteristics				
Sales[c]	920.215 (225)	3149.45 (1332.25)	454.489 (190)	0.0001 (0.0000)
Average total assets[c]	1033.95 (315.18)	2417.81 (1235.90)	744.832 (233)	0.0001 (0.0000)
Average bank debt[c]	163.057 (46.165)	368.236 (181)	124.998 (35)	0.0001 (0.0000)
Average bank debt/total assets	0.2122 (0.1869)	0.1929 (0.1895)	0.2157 (0.1868)	0.1275 (0.3835)
Debt/total assets	0.6953 (0.6832)	0.7503 (0.7351)	0.6839 (0.6733)	0.0834 (0.0000)
Employees	3558 (1464)	9241 (4825)	2376 (1221)	0.0001 (0.0000)
(C) Governance characteristics				
Average % ownership by top three shareholders	28.0% (25.4%)	21.6% (18.0%)	29.3% (26.5%)	0.0000 (0.0000)
Average % foreign ownership	8.0% (9.90%)	9.4% (10.0%)	7.7% (9.8%)	0.0001 (0.0000)
% of firms with top executive turnover[d]	25.3%	28.1%	24.7%	0.372
% with executive as a top holder[d]	38.9%	14.6%	44.0%	0.001
% with Bank a top holder[d]	6.2%	11.0%	5.2%	0.006
% with related company as a top holder[d]	18.2%	46.3%	12.4%	0.001

3.3.3. Ownership structure variables

We define a variable equal to one if a member of the management team is among the top three shareholders. This variable controls for managerial entrenchment. We also include two additional measures of ownership structure. We define ownership concentration as the sum of the shareholdings of the top three shareholders excluding managerial holdings. Finally, we define foreign ownership as the percentage of shares held by foreign investors.

If chaebol affiliation or bank ties play a key role in corporate governance in South Korea similar to Japan, we expect these variables to affect the turnover–performance relation. Therefore, we include interaction terms between chaebol affiliation and bank ties and firm performance. We expect a negative coefficient for these interaction terms for all performance models except the negative income model. For the negative income model, we hypothesize a positive coefficient. For the other governance variables, we are testing if they affect the unconditional likelihood of top executive turnover.

3.4. Summary statistics

Table 2 presents the summary statistics for the sample of firms analyzed in this study. The first column includes overall means (medians) for performance measures, firm and governance characteristics for the full sample of South Korean firms. The second and third columns break down each variable by affiliation with one of the top five chaebol. The final column is tests for differences in means (medians) between firms affiliated with the top five chaebol and all other firms.

Adjusted stock returns are significantly lower for chaebol firms relative to all other firms in our sample. Return on assets (earnings scaled by assets) is significantly lower for chaebol-affiliated firms than for all other firms. Return on equity (earnings scaled by equity) is consistently lower for the group-affiliated firms, and the medians are significantly different from the other firms at the 10% level. The change in earnings scaled by assets measure is indistinguishable when comparing the two samples. Finally, sales growth is significantly higher for chaebol firms indicating the larger group firms are continuing to get larger, but at the expense of profitability.

The performance results show a clear reversal from previous empirical research showing chaebol affiliation led to higher performance. The results are also consistent with the indirect evidence provided by Claessens et al. (1999) and Shin and Park (1999). It seems that the largest business groups in South Korea have chosen rapid growth at the expense of profitability.

As expected, chaebol firms are much larger (sales, assets, bank debt and employees) than the other firms in the sample. Consistent with conventional wisdom, chaebol firms have significantly higher levels of total debt relative to assets. However, bank debt, as a percentage of assets are not different between the two groups.

Unlike previous studies of the keiretsu system in Japan (Kang and Shivdasani, 1995), we find no difference in the unconditional likelihood of turnover between firms affiliated with the top chaebol and all other firms. Unaffiliated firms are more likely to have a top executive as one of top three shareholders and a higher ownership concentration among the top three shareholders. Firms affiliated with the top five chaebol have a higher level of

Table 3
Logit regressions of top executive turnover for all South Korean firms

Explanatory variables	Dependent variable is likelihood of top executive turnover				
Intercept	− 1.786	− 1.381	− 1.662	− 1.563	− 1.668
	(0.000)	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*
Adjusted stock return	− 0.212				
	(0.126)				
Adjusted ROA		− 7.312			
		(0.000)			
Δ in earnings/assets			− 0.111		
			(0.960)		
Adjusted ROE				− 2.990	
				(0.001)	
Negative income dummy					0.383
					(0.077)
Size	0.120	0.0558	0.098	0.078	0.091
	(0.041)	*(0.297)*	*(0.055)*	*(0.130)*	*(0.078)*
χ^2 *p*-Value (2 *DF*)	*0.018*	*0.000*	*0.159*	*0.001*	*0.035*
Observations	793	949	949	949	949

This table provides coefficients on logit regressions of management turnover on South Korean firm performance. The sample consists of all firms listed in the Asian Company Handbooks from 1993 to 1999 having at least two consecutive data points. Sample size varies with availability of data from the Asian Company Handbooks. Adjusted stock return is the 3-year raw stock return net the sample median. Adjusted ROA is computed as ROA net the median ROA for sample firms in the same fiscal year. Δ in earnings/assets is current year earnings less previous years earnings scaled by previous assets. Adjusted ROE is computed as ROA net the median ROA for sample firms in the same fiscal year. Negative income dummy is equal to 1 if the firm incurs net income less than zero. Size is the log of assets. *p*-Values are provided in parentheses below the coefficient estimates.

foreign ownership, and a higher likelihood of having either a bank or a related company among the top three shareholders.

4. Analysis of top executive turnover

4.1. Estimates of the turnover–performance relation for full sample

If South Korean executives lose their position as a result of poor performance, we would say that this supports the hypothesis that South Korean internal corporate governance is well functioning. On the other hand, if the penalties to top executives are not determined on the basis of performance, the internal corporate governance mechanism is faulty.

Similar to Kang and Shivdasani (1995), Gibson (2000) and Anderson and Campbell (2001), we do not know if the top executive turnover is a disciplinary event. Gibson (2000), in examining a cross-section of emerging market firms, uses a modified logit regression to account for the uncertainty over the turnover event. Kang and Shivdasani (1995) and Anderson and Campbell (2001) in their studies of Japanese firms define a disciplinary event as one in which the president (analogous to the CEO in U.S. firms) does not succeed the chairman. We have no way of knowing if a turnover event is disciplinary in nature, which

Table 4
Estimated probabilities and sample frequency of turnover

Estimated probability and sample frequency of turnover	Top executive turnover				
	Firm performance measured using				
	Adjusted stock return	Adjusted return on assets	ΔEarnings/ assets	Adjusted return on equity	Negative income[a]
Performance in bottom quartile	− 0.360	− 0.032	− 0.043	− 0.099	1
Performance in top quartile	1.145	0.058	0.029	0.101	0
Probability of turnover in bottom quartile	0.280	0.311	0.249	0.312	0.327
Probability of turnover top quartile	0.204	0.184	0.249	0.194	0.242
Frequency of turnover in bottom quartile	0.268	0.304	0.262	0.308	0.327
Frequency of turnover in top quartile	0.187	0.198	0.232	0.198	0.242

[a] For the negative income dummy, the probability and frequency of turnover are computed using the 0 and 1 dummy variables.

biases our results towards finding no relation between firm performance and top executive turnover.[8]

Table 3 reports the logit regression where the dependent variable is the likelihood of top executive turnover in a given year. The five models test for the relation between turnover likelihood and the different measures of firm performance. The coefficient on adjusted stock return is in the hypothesized direction, but not significant at the 10% level consistent with findings by Gibson (2000). The coefficients on return on assets and return on equity are negative and significant at the 1% level, and the coefficient on the negative income dummy is positive and significant at the 1% level. These results support a clear negative relation between turnover and firm performance, consistent with Kaplan (1994), Kang and Shivdasani (1995) and Gibson (2000). The coefficient on change in earnings scaled by assets is in the hypothesized direction, but not significant.

Table 4 provides estimated probabilities and sample frequency of turnover for each firm performance measure. This table shows the performance and estimated probability of turnover at the 25th and 75th percentile. The effect of firm performance on top executive turnover appears quite large. For example, varying adjusted return on assets from the 75th to the 25th percentile increases the likelihood of top executive turnover by 12.7% (18.4%

[8] We also do not have access to other potentially important variables, such as executive age, tenure, etc.

to 31.1%). Similar differences can be found for return on equity (11.8%), adjusted stock returns (7.6%) and the negative income model (8.5%). These differences appear much larger than for Japanese industrial firms (Kang and Shivdasani, 1995), U.S. industrial firms (Kaplan, 1994), Japanese banks (Anderson and Campbell, 2001) and U.S. banks (Barro and Barro, 1990).

4.2. Chaebol affect on turnover–performance relation

Table 5 presents the results from the logit regression for all five measures of firm performance based on whether the firm is affiliated with a top five chaebol. The sole purpose of this set of models is to test for differences in the turnover–performance relation

Table 5
Logit regressions of top executive turnover by group affiliation

Dependent variable is likelihood of top executive turnover					
Explanatory variables	Firm performance measured using				
	(1) Adjusted stock return	(2) Adjusted return on assets	(3) ΔEarnings/ assets	(4) Adjusted return on equity	(5) Negative income dummy
Panel A: Top five chaebol					
Intercept	− 1.608	− 1.214	− 1.227	− 1.219	− 0.905
	(0.149)	*(0.249)*	*(0.245)*	*(0.245)*	*(0.390)*
Performance	0.506	1.958	− 0.986	0.343	− 1.797
	(0.168)	*(0.747)*	*(0.856)*	*(0.901)*	*(0.088)*
Size	0.084	0.038	0.039	0.039	0.009
	(0.581)	*(0.793)*	*(0.787)*	*(0.788)*	*(0.948)*
χ^2 *p*-Value (2 *DF*)	*0.340*	*0.916*	*0.949*	*0.957*	*0.093*
Observations	147	164	164	164	164
Panel B: Non-top five chaebol					
Intercept	− 1.846	− 1.330	− 1.711	− 1.552	− 1.661
	(0.000)	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*
Performance	− 0.337	− 8.448	0.324	− 3.418	0.616
	(0.034)	*(0.000)*	*(0.893)*	*(0.001)*	*(0.008)*
Size	0.139	0.046	0.107	0.077	0.082
	(0.056)	*(0.473)*	*(0.082)*	*(0.221)*	*(0.189)*
χ^2 *p*-Value (2 *DF*)	*0.008*	*0.000*	*0.219*	*0.001*	*0.008*
Observations	646	785	785	785	785

This table provides coefficients on logit regressions of management turnover on South Korean firm performance by group affiliation. The sample consists of all firms listed in the Asian Company Handbooks from 1993 to 1999 having at least two consecutive data points. Sample size varies with availability of data from the Asian Company Handbooks. Adjusted stock return is the 3-year raw stock return net the sample median. Adjusted ROA is computed as ROA net the median ROA for sample firms in the same fiscal year. Δ in earnings/assets is current year earnings less previous years earnings scaled by previous assets. Adjusted ROE is computed as ROA net the median ROA for sample firms in the same fiscal year. Negative income dummy is equal to 1 if the firm incurs net income less than zero. Size is the log of assets. *p*-Values are provided in parentheses below the coefficient estimates.

between firms associated with the five top chaebol and all other firms. Panel A runs the same regressions as Table 3, but includes only firms affiliated with the top chaebol. Panel B contains all other firms.

Table 6
Estimated probabilities and sample frequency of turnover by affiliation

Estimated probability and sample frequency of turnover	Top executive turnover				
	Firm performance measured using				
	Adjusted stock return	Adjusted return on assets	ΔEarnings/ assets	Adjusted return on equity	Negative income[a]
Firms in top five chaebol					
Performance in bottom quartile	− 0.451	− 0.024	− 0.036	− 0.078	1
Performance in top quartile	0.678	0.030	0.021	0.073	0
Probability of turnover in bottom quartile	0.228	0.271	0.285	0.274	0.067
Probability of turnover top quartile	0.340	0.291	0.274	0.286	0.302
Frequency of turnover in bottom quartile	0.216	0.195	0.244	0.195	0.067
Frequency of turnover in top quartile	0.333	0.244	0.268	0.244	0.302
Firms not affiliated with top five chaebol					
Performance in bottom quartile	− 0.327	− 0.034	− 0.044	− 0.103	1
Performance in top quartile	1.227	0.062	0.031	0.105	0
Probability of turnover in bottom quartile	0.286	0.318	0.245	0.319	0.367
Probability of turnover top quartile	0.183	0.169	0.287	0.181	0.230
Frequency of turnover in bottom quartile	0.317	0.337	0.235	0.321	0.367
Frequency of turnover in top quartile	0.168	0.173	0.247	0.194	0.230

[a] For the negative income dummy, the probability and frequency of turnover are computed using the 0 and 1 dummy variables.

In Panel A, the firm performance coefficient is only in the hypothesized direction for one performance measure (change in earnings scaled by assets) and is actually perversely significant for the negative income model. These results suggest top executives at group affiliated firms face no threat of dismissal for poor performance. The size variable is never significant for any of the models.

For Panel B, the coefficient on the performance variable is significant at the 1% level and in the hypothesized direction for three performance measures (ROA, ROE and the negative income dummy). Also, the coefficient on the adjusted stock return measure is significant at the 5% level. For these firms, there is some evidence of a positive relation between turnover and firm size as the coefficient is significant at the 10% level in two specifications. These results suggest properly functioning corporate governance outcomes for firms unaffiliated with the top five chaebol. Overall, these results highlight an extreme difference in how South Korean firms are governed.

Table 6 shows the estimated probability of turnover for firms according to chaebol affiliation. For firms associated with one of the top five chaebol, varying adjusted ROA, change in earnings scaled by assets and adjusted ROE has very little impact on the change in turnover likelihood. However, the perverse positive relation is magnified for adjusted stock return and the negative income model as turnover likelihood actually increases significantly for those executives at the better performing firms. The top half of Table 6 underscores the complete lack of a turnover–performance relation for firms affiliated with the top chaebol.

The bottom half of Table 6 presents the estimated probabilities of turnover for those firms not affiliated with a top chaebol. Varying all measures of firm performance, except for change in earnings, from the top to bottom quartile increases the likelihood of top executive turnover. Varying return on assets from the 75th to the 25th percentile increases the likelihood of top executive turnover by 14.9% (16.9% to 31.8%). Similar differences can be found for return on equity (13.8%), the negative income dummy (13.7%) and adjusted stock returns (10.3%). These results suggest extremely effective internal corporate governance for unaffiliated firms.

Notes to Table 7:

This table provides coefficients on logit regressions of management turnover on South Korean firm performance by group affiliation. The sample consists of all firms listed in the Asian Company Handbooks from 1993 to 1999 having at least two consecutive data points. Sample size varies with availability of data from the Asian Company Handbooks. Adjusted stock return is the 3-year raw stock return net the sample median. Adjusted ROA is computed as ROA net the median ROA for sample firms in the same fiscal year. Δ in earnings/assets is current year earnings less previous years earnings scaled by previous assets. Adjusted ROE is computed as ROA net the median ROA for sample firms in the same fiscal year. Negative Income dummy is equal to 1 if the firm incurs net income less than zero. Foreign ownership is the percentage of foreign ownership in the firm. Own. Concentration is the sum of the top three shareholders. Top Manager Own. is an indicator equal to one if an executive is one of the top three shareholders. Bank a top holder is an indicator variable equal to one if a bank is among the top three shareholders of the firm, and zero otherwise. *p*-Values are provided in parentheses below the coefficient estimates.

[a] The bank-performance interaction term is left out of this model because the performance variable for this specification is a dummy variable.

Table 7
Logit regressions of top executive turnover by group affiliation

Dependent variable is likelihood of top executive turnover					
Explanatory variables	Firm performance measured using				
	(1) Adjusted stock return	(2) Adjusted return on assets	(3) ΔEarnings/ assets	(4) Adjusted return on equity	(5) Negative income dummy
Panel A: Top five chaebol firms					
Intercept	− 0.747 *(0.186)*	− 0.530 *(0.311)*	− 0.641 *(0.211)*	− 0.485 *(0.358)*	− 0.432 *(0.416)*
Firm performance	0.456 *(0.268)*	8.884 *(0.231)*	− 2.209 *(0.749)*	− 2.254 *(0.498)*	− 1.665 *(0.129)*
Bank × firm performance	4.472 *(0.203)*	− 2.638 *(0.914)*	− 21.765 *(0.284)*	12.579 *(0.271)*	[a]
Foreign ownership	− 0.009 *(0.859)*	− 0.037 *(0.429)*	− 0.024 *(0.603)*	− 0.040 *(0.398)*	− 0.045 *(0.363)*
Ownership concentration	− 0.005 *(0.692)*	− 0.000 *(0.992)*	− 0.002 *(0.884)*	− 0.001 *(0.939)*	0.003 *(0.798)*
Manager a top holder	− 0.009 *(0.988)*	− 0.109 *(0.848)*	− 0.109 *(0.849)*	− 0.111 *(0.845)*	− 0.239 *(0.674)*
Bank a top holder	− 0.311 *(0.727)*	− 0.419 *(0.537)*	− 0.760 *(0.328)*	− 0.822 *(0.289)*	− 0.394 *(0.526)*
χ^2 *p*-Value (6 *DF*)	0.676	0.898	0.858	0.807	0.677
Observations	130	143	143	143	143
Panel B: Non-top five firms					
Intercept	− 0.319 *(0.306)*	− 0.547 *(0.041)*	− 0.408 *(0.118)*	− 0.573 *(0.034)*	− 0.514 *(0.056)*
Firm performance	− 0.350 *(0.045)*	− 6.405 *(0.017)*	0.655 *(0.818)*	− 2.472 *(0.038)*	0.431 *(0.100)*
Bank × firm performance	1.090 *(0.177)*	6.002 *(0.705)*	9.581 *(0.487)*	− 2.031 *(0.744)*	[a]
Foreign ownership	− 0.045 *(0.033)*	− 0.035 *(0.073)*	− 0.047 *(0.017)*	− 0.035 *(0.074)*	− 0.043 *(0.028)*
Ownership concentration	− 0.003 *(0.634)*	− 0.003 *(0.621)*	− 0.005 *(0.424)*	− 0.003 *(0.583)*	− 0.005 *(0.453)*
Manager a top holder	− 0.779 *(0.000)*	− 0.678 *(0.001)*	− 0.762 *(0.000)*	− 0.697 *(0.001)*	− 0.745 *(0.000)*
Bank a top holder	− 0.290 *(0.552)*	− 0.230 *(0.592)*	− 0.180 *(0.671)*	− 0.209 *(0.626)*	− 0.218 *(0.606)*
χ^2 *p*-Value (2 *DF*)	0.001	0.000	0.002	0.000	0.001
Observations	545	654	654	654	654

4.3. Cross-sectional analysis of turnover–performance relation

Table 7 presents the logit regressions of top executive turnover, which include other potentially important governance variables. Once again, Panel A contains only those firms associated with a top five chaebol. Panel B includes all other firms.

In Panel A, similar to the previous regressions, the firm performance coefficient is insignificant for all performance measures indicating a lack of governance for chaebol firms. The interaction term between bank affiliation and firm performance is also insignificant for all performance measures suggesting banks do not provide the meaningful monitoring role in South Korea that they play in Japan for affiliated firms (Kaplan and Minton, 1994; Kang and Shivdasani, 1995). The coefficients on foreign ownership, ownership concentration, the existence of a manager as a top shareholder and a bank a top shareholder are all insignificant. These results are supportive of inefficient internal corporate governance and imply ownership structure is unimportant for top chaebol firms.

In contrast, firm performance is in the hypothesized direction and significant at the 5% level for adjusted stock returns, adjusted ROA and adjusted ROE. Also, the coefficient is in the hypothesized direction and significant at the 10% level for the negative income dummy. These results once again indicate properly functioning governance of firms unaffiliated with the top chaebol. The coefficient on foreign ownership is negative and significant suggesting passive foreign ownership. This result should not be surprising; as mentioned earlier, foreign ownership is a recent phenomenon in South Korea. Ownership concentration is negative for all performance measures, but insignificant, indicating passive large shareholders in South Korea consistent with other recent research on emerging market countries.[9]

Not surprising, the coefficient on the dummy variable for top executive ownership is negative and significant for all regressions suggesting a high level of managerial entrenchment. Finally, the dummy variable for bank ownership is insignificant indicating that unconditional turnover is completely unrelated to bank monitoring. Estimated probabilities are qualitatively similar to those performed in Table 6 and, hence, are not shown.

5. Conclusions

We provide evidence regarding the role of large business groups dominating an emerging market by studying a large sample of South Korean firms. Contrary to preliminary conclusions regarding business groups in emerging markets (Khanna, 2000), the top business groups in South Korea appear to have negatively impacted the South Korean economy in the 1990s. Specifically, top chaebol-affiliated firms demonstrate significantly lower performance and significantly higher sales growth contrary to previous research. This result is consistent with anecdotal evidence that chaebol firms are interested

[9] We also created interaction terms for blockholding and firm performance similar to Kang and Shivdasani (1995), but found no significant relation.

in goals other than profit maximization. Also, similar to studies of U.S. and Japanese corporations, the likelihood of top executive turnover is negatively related to firm performance for the full sample of South Korean firms. This finding is consistent with the existence of efficient internal corporate governance mechanisms for the full sample of firms (Gibson, 2000).

However, top executive turnover is completely unrelated to performance for top chaebol firms, indicating a breakdown in internal corporate governance for these business groups. Internal corporate governance appears much more effective for firms unrelated to the top chaebol as managers at poorly performing firms are significantly more likely to lose their job. These results imply that internal corporate governance among the top chaebol, which dominate the Korean economy, may have increased the severity of the recent financial crisis. The results also magnify the extreme differences in which firms are governed in South Korea.

Unlike similar studies of Japan, the sensitivity of top executive turnover to firm performance is unrelated for firms with bank ties. Financial institutions in South Korea do not appear to play an effective monitoring role. Also, we find evidence consistent with passive ownership by large domestic entities as well as foreigners. Finally, we provide results consistent with managerial entrenchment when a top executive is also a shareholder.

Overall, these results suggest that extremely poor corporate governance of the dominant chaebol may have worsened the impact of the financial crisis in South Korea in the late 1990s. These results are consistent with anecdotal evidence provided by both the business press and corporate governance experts in South Korea.

Acknowledgements

We would like to thank Helen Bowers, Ken Koford, Young Lee, Raj Varma, seminar participants at the University of Delaware, and especially Richard Grayson for constructive comments. We are grateful to the editor, Ken Lehn, for helpful comments. We also acknowledge the valuable research assistance of Vishwanath Malige and Qing Ye.

References

Anderson, C., Campbell II, T., 2001. Corporate Governance of Japanese Banks. Working Paper, University of Kansas.

Aoki, M., 1990. Toward an economic model of the Japanese firm. Journal of Economic Literature 28, 1–27.

Barro, J., Barro, R., 1990. Pay, performance and turnover of bank CEOs. Journal of Labor Economics 8, 448–481.

Berger, P., Ofek, E., 1995. Diversification's effect on firm value. Journal of Financial Economics 37, 39–65.

Chang, C.S., Chang, N.J., 1994. The Korean Management System: Cultural, Political, Economic Foundations. Quorum Books, Westport, CT.

Chang, S.J., Choi, U., 1988. Strategy, structure and performance of korean business groups: a transactions cost approach. Journal of Industrial Economics 37, 141–158.

Choi, J.-P., Cowing, T.G., 1999. Firm behavior and group affiliation: the strategic role of corporate grouping for Korean firms. Journal of Asian Economics 10, 195–209.

Claessens, S., Djankov, S., Fan, J., Lang, L., 1999. Diversification and Efficiency of Investment by East Asian Corporations. Working paper, World Bank.

Claessens, S., Djankov, S., Lang, L., 2000. The separation of ownership and control in East Asian corporations. Journal of Financial Economics 58, 81–112.

Comment, R., Jarrell, G., 1994. Corporate focus and stock returns. Journal of Financial Economics 37, 67–87.

Gibson, M.S., 2000. Is corporate governance ineffective in emerging markets? Working paper, Federal Reserve Board.

Johnson, S., Boone, P., Breach, A., Friedman, E., 2000. Corporate governance in the Asian financial crisis. Journal of Financial Economics 58, 141–186.

Kang, J.-K., Shivdasani, A., 1995. Firm performance, corporate governance, and top executive turnover in Japan. Journal of Financial Economics 38, 29–58.

Kaplan, S.N., 1994. Top executive rewards and firm performance: a comparison of Japan and the U.S. Journal of Political Economy 102, 510–546.

Kaplan, S.N., Minton, B., 1994. Appointments of outsiders to Japanese boards: determinants and implications for managers. Journal of Financial Economics 36, 225–258.

Khanna, T., 2000. Business groups and social welfare in emerging markets: existing evidence and unanswered questions. European Economic Review 44, 748–761.

Khanna, T., Palepu, K., 2000a. Is group membership profitable in emerging markets? An analysis of diversified Indian business groups. Journal of Finance 55, 867–891.

Khanna, T., Palepu, K., 2000b. The future of business groups in emerging markets: long run evidence from Chile. Academy of Management Journal 43, 268–285.

Lang, L., Stulz, R., 1994. Tobin's *q*, corporate diversification, and firm performance. Journal of Political Economy 102, 142–174.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1997. Legal determinants of external finance. Journal of Finance 52, 1131–1150.

LaPorta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1998. Law and finance. Journal of Political Economy 106, 1113–1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1999. Corporate ownership around the world. Journal of Finance 54, 471–517.

Morck, R., Shleifer, A., Vishny, R.W., 1989. Alternative mechanisms of corporate control. American Economic Review 79, 842–852.

Shin, H.-H., Park, Y.S., 1999. Financing constraints and internal capital markets: evidence from Korean 'chaebols'. Journal of Corporate Finance 5, 169–191.

Shleifer, A., Vishny, R.W., 1997. A survey of corporate governance. Journal of Finance 52, 737–783.

Weinstein, D., Yafeh, Y., 1995. Japan's corporate groups: collusive or competitive? An empirical investigation of keiretsu behavior. Journal of Industrial Economics 43, 359–376.

Weinstein, D., Yafeh, Y., 1998. On the costs of a bank-centered financial system: evidence from the changing main bank relations in Japan. Journal of Finance 53, 635–672.

Yoo, J.-H., Moon, C.W., 1999. Korean financial crisis during 1997–1998: causes and challenges. Journal of Asian Economics 10, 263–277.